Having thus described the invention, I claim:

1. A method for encrypting data comprising:

establishing a code set having N different elements, where N is greater than or equal to 2;

receiving d input data symbols to be encrypted, where d is greater than or equal to 1, each input data symbol is an element of the code set;

establishing a cryptographic key including c key symbols, where c is greater than or equal to 1, each key symbol is an element of the code set;

combining the d data symbols and the c key symbols to form a sequence of k_1 symbols, where k_1 is greater than or equal to 2;

applying an error correction encoder algorithm to the sequence of k_1 symbols, resulting in m_1 symbols of error correction information to be assigned to the sequence, where m_1 is greater than or equal to 1; and

wherein the resulting m_1 symbols plus the c key symbols are sufficient to compute the d input data symbols, by applying the inverse error correction algorithm.

2. A method according to claim 1, wherein said method further comprises:

combining the m_1 symbols of error correction information to form a sequence of k_2 symbols, where k_2 is greater than or equal to 2; and

applying an error correction encoder algorithm to the sequence of k_2 symbols, resulting in m_2 symbols of error correction information to be assigned to the sequence, where m_2 is greater than or equal to 1,

wherein said sequence of k_2 symbols comprised of m_1 symbols of error correction information, and the m_2 symbols of error correction information are received for data decryption.

3. A method according to claim 2, wherein said m_2 symbols of error correction information are generated to provide error correction for the m_1 symbols of error correction information.

4. A method according claim 1, wherein said error correction encoder

algorithm includes at least one of: block codes, FEC (Forward Error Correction), ECC (Error Correction Codes), BCH (Bose-Chaudhuri-Hocqenghem), Golay, and Reed-Solomon.

5. A method according to claim 1, wherein said m_1 symbols of error correction are sufficient to error correct the d data symbols and m_1 symbols of error correction.

6. A method for decrypting data comprising:

establishing a code set having N different elements, where N is greater than or equal to 2;

receiving m_1 data symbols to be decrypted, where m_1 is greater than or equal to 1, each data symbol is an element of the code set;

establishing a cryptographic key having c key symbols, where c is greater than or equal to 1, each key symbol is an element of the code set;

combining an empty field of d data placeholders and the c key symbols, along with the m_1 encrypted data symbols to form a sequence of n symbols, where d is greater than or equal to 1 and n is greater than or equal to 3, and where the resulting sequence is in the form of a data block with an error correction field that contains d errors specifically known to be in the placeholders; and

applying an error correction decoder algorithm to the sequence of n symbols, resulting in d symbols being corrected in the placeholder locations,

wherein the resulting d symbols are the decrypted data.

7. A method according to claim 6, wherein said m_1 data symbols are error corrected using m_2 data symbols of error correction, where m_2 is greater than or equal to 1, each data symbol is an element of the code set.

8. A method according to claim 6, wherein e data symbols of error correction are received, said e data symbols of error correction are sufficient to correct errors in the m_1 data symbols.

9. A method according claim 6, wherein said error correction decoder algorithm includes at least one of: block codes, FEC (Forward Error Correction), ECC (Error Correction Codes), BCH (Bose-Chaudhuri-Hocqenghem), Golay, and Reed-

Solomon.

10. A system for encrypting data comprising:

means for establishing a code set having N different elements, where N is greater than or equal to 2;

means for receiving d input data symbols to be encrypted, where d is greater than or equal to 1, each input data symbol is an element of the code set;

means for establishing a cryptographic key including c key symbols, where c is greater than or equal to 1, each key symbol is an element of the code set;

means for combining the d data symbols and the c key symbols to form a sequence of k_1 symbols, where k_1 is greater than or equal to 2;

encoding means for applying an error correction encoder algorithm to the sequence of k_1 symbols, resulting in m_1 symbols of error correction information to be assigned to the sequence, where m_1 is greater than or equal to 1; and

wherein the resulting m_1 symbols plus the c key symbols are sufficient to compute the d input data symbols, by applying the inverse error correction algorithm.

11. A system according to claim 10, wherein said system further comprises:

means for combining the m_1 symbols of error correction information to form a sequence of k_2 symbols, where k_2 is greater than or equal to 2, said encoding means applying an error correction encoder algorithm to the sequence of k_2 symbols, resulting in m_2 symbols of error correction information to be assigned to the sequence, where m_2 is greater than or equal to 1,

wherein said sequence of k_2 symbols comprised of m_1 symbols of error correction information, and the m_2 symbols of error correction information are received for data decryption.

12. A system according to claim 11, wherein said m_2 symbols of error correction information are generated to provide error correction for the m_1 symbols of error correction information.

13. A system according claim 10, wherein said error correction encoder

algorithm includes at least one of: block codes, FEC (Forward Error Correction), ECC (Error Correction Codes), BCH (Bose-Chaudhuri-Hocqenghem), Golay, and Reed-Solomon.

14. A system according to claim 10, wherein said m_1 symbols of error correction are sufficient to error correct the d data symbols and m_1 symbols of error correction.

15. A system for decrypting data comprising:

means for establishing a code set having N different elements, where N is greater than or equal to 2;

means for receiving m_1 data symbols to be decrypted, where m_1 is greater than or equal to 1, each data symbol is an element of the code set;

means for establishing a cryptographic key having c key symbols, where c is greater than or equal to 1, each key symbol is an element of the code set;

means for combining an empty field of d data placeholders and the c key symbols, along with the m1 encrypted data symbols to form a sequence of n symbols, where d is greater than or equal to 1, and n is greater than or equal to 3, and where the resulting sequence is in the form of a data block with an error correction field that contains d errors specifically known to be in the placeholders; and

encoding means for applying an error correction decoder algorithm to the sequence of n symbols, resulting in d symbols being corrected in the placeholder locations,

wherein the resulting d symbols are the decrypted data.

16. A system according to claim 15, wherein said m_1 data symbols are error corrected using m_2 data symbols of error correction, where m_2 is greater than or equal to 1, each data symbol is an element of the code set.

17. A system according to claim 15, wherein e data symbols of error correction are received, said e data symbols of error correction are sufficient to correct errors in the m_1 data symbols.

18. A system according claim 15, wherein said error correction decoder algorithm includes at least one of: block codes, FEC (Forward Error Correction), ECC (Error Correction Codes), BCH (Bose-Chaudhuri-Hocqenghem), Golay, and Reed-Solomon.

19. A method for encrypting data comprising:
receiving input data symbols to be encrypted;
establishing a cryptographic key; and
applying an error correction encoder algorithm to the input data symbols and the cryptographic key, wherein the resulting error correction symbols plus the cryptographic key are sufficient to determine the input data symbols by application of an error correction decoder algorithm.

20. A method for decrypting data comprising:
receiving data symbols to be decrypted;
establishing a cryptographic key; and
applying an error correction decoder algorithm to the data symbols and cryptographic key to generate decrypted data.